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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,395

08/18/2004

Florian Lichtenberg

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EXAMINER

SASAN, ARADHANA

ART UNIT

PAPER NUMBER

1615

MAIL DATE

DELIVERY MODE

08/12/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,395	<b>Applicant(s)</b> LICHTENBERG ET AL.
	<b>Examiner</b> ARADHANA SASAN	<b>Art Unit</b> 1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-15,21,23,25,27,29,34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-15,21,23,25,27,29,34 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| <p>1) <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/>Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
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## **DETAILED ACTION**

### ***Status of Application***

1. The remarks and amendments filed on 08/03/10 and the Request for Continued Examination filed on 10/29/10 are acknowledged.
2. Claims 5-6, 16-20, 22, 24, 26, 28, and 30-33 were cancelled.
3. Claim 1 was amended.
4. New claims 34-35 were added.
5. Claims 1-4, 7-15, 21, 23, 25, 27, 29, and 34-35 are included in the prosecution.

### ***Continued Examination under 37 CFR 1.114***

6. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/29/10 has been entered.

### ***Response to Arguments***

#### **Rejection of claim 1 under 35 USC § 112, 2<sup>nd</sup> paragraph**

7. In light of the amendment of claim 1 to delete the limitation of optionally having "one or more auxiliaries" the rejection of this claims under 35 USC § 112, second paragraph is withdrawn.

***Claim Rejections - 35 USC § 103***

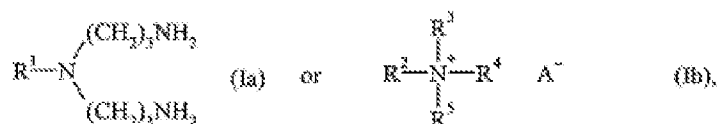
8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 7-15, 19, 21, 23, 25, 27, 29, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. (WO 00/03692) in view of Zhou et al. (US 6,017,561 – Zhou '561 hereinafter).

The claimed invention is a process of utilizing a disinfectant composition consisting of:

a) an amine and/or quaternary ammonium salt of the general formula:



where R<sup>1</sup> is C<sub>8-18</sub>-alkyl,

R<sup>2</sup> is benzyl or C<sub>8-18</sub>-alkyl,

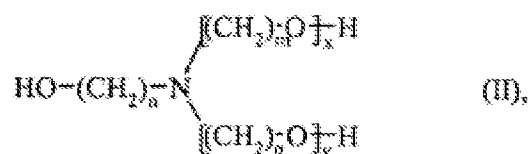
$R^3$  is  $C_{1-18}$ -alkyl or  $-[(CH_2)_x-O]_nR^6$  where  $n = 1-20$ ,

$R^4$  and  $R^5$  independently of one another are  $C_{1-18}$ -alkyl,

$R^6$  is hydrogen or unsubstituted or substituted phenyl,

and  $A'$  is a monovalent anion or one equivalent of a polyvalent anion of an inorganic or organic acid; and

b) at least one alkanolamine of the general formula:



where  $n$  and, if present,  $m$  and  $o$  independently of one another have the value 2 or 3, and  $x$  and  $y$  independently of one another have the value 0 or 1, or a corresponding salt; in the mass ratio a):b) of 20:1 to 1:20;

c) water, as solvent.

Zhou teaches a method of decontaminating a surface by using a composition comprising a quaternary ammonium compound and water (Abstract). Quaternary ammonium compounds including  $C_{12-16}$  alkyl dimethylbenzyl ammonium chloride,  $C_8/C_{10}$  alkyl dimethyl ammonium chloride, di- $C_8$  alkyl dimethyl ammonium chloride and di- $C_{10}$  alkyl dimethyl ammonium chloride are disclosed (Page 8, line 42 to Page 9, line 15). Typical amounts of the quaternary ammonium compound range from about 0.01%-5% (Page 9, lines 25-30). Alkanolamines (including triethanolamine) are disclosed as components that comprise 0.01% to 5% of the composition (Page 16, lines 23-36). The method for decontaminating a surface containing microorganisms by contacting the

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surface with the dispensable composition is also disclosed by Zhou (Page 2, line 45 to Page 3, line 1). The surfaces that may be treated include bathroom surfaces, implements, etc., and include surfaces that harbor microorganisms, including viruses (Page 3, line 40 to Page 3, line 21). The composition can also be used as a cleaner and soil remover (Page 4, lines 29-32). "Additional adjuncts in small amounts such as buffers, fragrances, dyes and the like can be included to provide desirable attributes of such adjuncts" (Page 5, lines 4-5). Table III illustrates the virucidal efficacy of the composition when applied to a test surface. The complete inactivation of poliovirus type I is demonstrated (Page 20, Table III and Page 19, lines 38-40).

Zhou teaches aerosol compositions, and the propellant is required (Abstract).

Applicant amended claim 1 to replace the transitional phrase "comprising" with "consisting of" which is considered closed language and excludes the propellant required by Zhou.

Zhou '561 teaches an antimicrobial cleaning composition that includes a quaternary ammonium compound (Abstract) and "... can be readily applied by conventional dispensing means. Preferably, the composition is sprayed or otherwise applied onto a surface ..." (Col. 3, lines 1-6). The cleaning composition does not require a propellant.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of decontaminating a surface by applying a composition that is an effective virucide and that contains a quaternary ammonium salt (such as the C<sub>12-16</sub> alkyl dimethylbenzyl ammonium chloride, C<sub>8</sub>/C<sub>10</sub> alkyl dimethyl

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ammonium chloride, di-C<sub>8</sub> alkyl dimethyl ammonium chloride and di-C<sub>10</sub> alkyl dimethyl ammonium chloride) and an alkanolamine (triethanolamine), as suggested by Zhou, modify the aerosol composition of Zhou by eliminating the propellant in order to apply the composition in other conventional dispensing means such as by spraying a surface, as suggested by Zhou '561, and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because MPEP 2141 states that it is obvious to apply a known technique to a known method ready for improvement to yield predictable results. Zhou teaches that "... the antimicrobial compositions ... may exist as emulsions, suspensions, dispersions, solutions, or possibly, as other forms of liquids, such as microemulsions and liquid crystals" (Page 6, lines 14-21). One of ordinary skill in the art would find it obvious to use various conventional dispensing means such as spraying a liquid cleaning composition (suggested by Zhou) on a surface that are known in the art and evidenced by the teaching of Zhou '561. One of ordinary skill in the art would have a reasonable expectation of success in eliminating the propellant from the aerosol composition of Zhou, apply the liquid composition by spraying a surface, and achieve the desired disinfection of the surface.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Regarding instant claims 1, 34 and 35, the limitation of the process of utilizing a disinfectant composition would have been obvious over the method of decontaminating a surface by applying the composition that is an effective virucide, as disclosed by Zhou (Page 2, line 45 to Page 3, line 1 and Table III). The limitation of a quaternary ammonium salt of the general formula disclosed in claim 1 would have been obvious over the C<sub>12-16</sub> alkyl dimethylbenzyl ammonium chloride, C<sub>8</sub>/C<sub>10</sub> alkyl dimethyl ammonium chloride, di-C<sub>8</sub> alkyl dimethyl ammonium chloride and di-C<sub>10</sub> alkyl dimethyl ammonium chloride taught by Zhou (Page 9, lines 25-30). The limitation of “at least one alkanolamine” of the general formula disclosed in claim 1 would have been obvious over the triethanolamine disclosed by Zhou (Page 16, lines 23-36). The limitation of the mass ratio of I:II (or the mass ratio of the quaternary ammonium compound: the alkanolamine) of 20:1 to 1:20 would have been obvious over the ratio of quaternary (ammonium compound: alkanolamine that ranges from (0.01%-5%): (0.01%-5%), as taught by Zhou (Page 9, lines 25-30 and Page 16, lines 23-36). The limitation of water as a solvent would have been obvious over the water in the composition taught by Zhou (Abstract).

Regarding instant claim 2, the limitation of the quaternary ammonium salt would have been obvious over the C<sub>8</sub>/C<sub>10</sub> alkyl dimethyl ammonium chloride, di-C<sub>8</sub> alkyl dimethyl ammonium chloride and di-C<sub>10</sub> alkyl dimethyl ammonium chloride, as taught by Zhou (Page 9, lines 25-30).

Regarding instant claims 3 and 12, the limitation of the alkanolamine would have been obvious over the triethanolamine taught by Zhou (Page 16, lines 23-36).



Regarding instant claims 4 and 13-15, the limitation of the mass ratio of I:II that is between 1:5 and 5:1 would have been obvious over the ratio of quaternary (ammonium compound: alkanolamine that ranges from (0.01%-5%): (0.01%-5%), as taught by Zhou (Page 9, lines 25-30 and Page 16, lines 23-36).

Regarding instant claims 7-10, 21, 23, 25, and 27, the limitation of surface disinfection, instrument disinfection, and laundry disinfection would have been obvious over the treatment of bathroom surfaces, implements, and the use of the composition as a cleaner and soil remover, as taught by Zhou (Page 4, lines 29-32).

Regarding instant claims 11 and 29, the limitation of the process wherein the virucidal agent of claim 1 is utilized against parvoviruses, picornaviruses or polioviruses would have been obvious over the application of the composition to a surface and the complete inactivation of poliovirus type I, as disclosed by Zhou (Page 20, Table III and Page 19, lines 38-40).

Regarding instant claims 34 and 35, the limitation of the auxiliaries would have been obvious over the solvent (Abstract, Page 2, line 32, Page 6, line 5, Page 9, line 33 to Page 10, line 19) and the additional adjuncts in small amounts such as buffers, fragrances, and dyes that can be included, as taught by Zhou (Page 5, lines 4-5).

### ***Response to Arguments***

10. Applicant's arguments, see Pages 8-18, filed 08/03/10, with respect to the rejection of claims 1-4, 6-15, 19, 21, 23, 25, 27, and 29 under 35 U.S.C. 103(a) as being

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unpatentable over Zhou et al. (WO 00/03692) in view of Zhou et al. (US 6,017,561 – “Zhou '561”) have been fully considered but are not found persuasive.

Applicant argues that Zhou requires a propellant and is not relevant to either Zhou '561 or Applicant's claimed invention.

This is not persuasive because Zhou is combined with Zhou '561 since both references are drawn to cleaning compositions and one of ordinary skill in the art would find it obvious to use various conventional dispensing means such as spraying a liquid cleaning composition (as suggested by Zhou) on a surface that are known in the art - as evidenced by the teaching of Zhou '561.

Applicant argues that the composition of Zhou '561 requires the critical inclusion of an anionic polymer and that the Examiner has no basis for destroying the invention of Zhou '561 by leaving out its crucial element of an anionic polymer. Applicant argues that when the Examiner tries to use Zhou '561 as the secondary rejection reference, the Examiner does not have any basis for her (or one ordinarily skilled in the art) to not also have to bring over the crucial element anionic polymer as another component or as a replacement for the alkanolamine of Zhou et al. - in either case, the result is not applicants' claimed invention.

This is not persuasive because the primary reference, Zhou, does not require the incorporation of an additional anionic polymer. The secondary reference, Zhou '561, has the anionic polymer, but is relied upon solely for the teaching of a cleaning composition that can be sprayed on a surface without the presence of a propellant. Zhou teaches the limitations of claim 1 (i.e., the method of decontaminating a surface by applying a

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composition that is an effective virucide and contains the components required by claim 1). The deficiency in Zhou is that it contains a propellant. Zhou '561 is not relied upon for the teaching of the components of the disinfectant composition. It is emphasized that Zhou '561 is only relied upon for the teaching of applying a cleaning composition without the use of a propellant.

Applicant argues that the Examiner has not shown why one ordinarily skilled in the art would ignore a crucial part of the composition of Zhou '561 in the search for Applicant's claimed invention and that it appears that the Examiner has incorrectly used forbidden hindsight in combining the two rejection references that form the obviousness rejection.

This is not persuasive because it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues that the Examiner does not know what would, or would not, motivate one ordinarily skilled in the art and that the Examiner has not proven in the record that a known technique, a known method and predictable results are involved. Applicant argues that the Examiner does not know what one ordinarily skilled in the art would believe/know has a reasonable expectation of success.

This is not persuasive because both references used in the obviousness rejection are drawn to methods of applying cleaning/disinfectant compositions to surfaces. One having ordinary skill in the art would look at these references as guidelines when researching methods of applying cleaning compositions. Since the references can be properly combined, one of ordinary skill in the art would find it obvious to remove the propellant of Zhou when applying cleaning composition that is not an aerosol.

Therefore, the rejection of 03/02/10 is maintained with respect to claims 1-4, 7-15, 21, 23, 25, 27 and 29 and applied to new claims 34 and 35.

### ***Conclusion***

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aradhana Sasan whose telephone number is (571) 272-9022. The examiner can normally be reached Monday to Thursday from 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax, can be reached at 571-272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Aradhana Sasan/  
Examiner, Art Unit 1615